

a plurality of motors respectively associated with said multiple axes, each of said motors providing relative movement between the tool and the workpiece along an associated one of said axes;

B1 a plurality of feedback devices respectively associated with said plurality of motors for providing feedback information indicative of at least one of the actual position and velocity of the tool along an associated axis; and

a single [computational resource] active processor for controlling said data defining means and said data converting means, for receiving feedback information from each of said feedback devices, and for controlling the operation of each of said motors to provide coordinated relative movement between the tool and the workpiece along each of said multiple axes in accordance with said stored path description.

[Claim 2, line 2, delete "computational resource" and insert --active processor--.

Claim 3, line 2, delete "computational resource" and insert --active processor--.

6 A. (Twice Amended) A method for providing coordinated movement of a device along multiple axes of motion by means of a single [computational resource] active processor, comprising the steps of:

B2 a) determining desired movement of the device along each of said axes of motion for successive increments of time;

b) carrying out one cycle of control in said active processor for one of said increments of time, said cycle including the steps of:

- i) determining, on the basis of said desired movement, at least one of a desired position and desired velocity of the device along one of said axes;
- ii) detecting at least one of the actual position and actual velocity of the device along said one axis;
- iii) calculating at least one of a position error and a velocity error along said one axis for said increment of time;
- iv) generating a pulse-width modulated control signal to produce movement along said one axis that is effective to reduce said error by:

determining a center value indicative of the average width of the pulse-width modulated signal over plural previous cycles of operation;

computing a response based on said error and detecting whether said response is less than or greater than a reference value;

increasing said center value when said response is greater than said reference value and decreasing said center value when said response is less than said reference value; and

summing said center value and said response to determine the width of said pulse-width modulated signal; and

v) sequentially repeating steps i, ii and iii for each of the other axes; and

c) repeating step b for each of the successive increments of time.